

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 11543-06-228	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below	
International application No. PCT/US05/22071	International filing date (day/month/year) 20 June 2005 (20.06.2005)	(Earliest) Priority Date (day/month/year) 19 June 2004 (19.06.2004)
Applicant CHONDROGENE, INC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 44 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the Report

a. With regard to the **language**, the international search was carried out on the basis of:



the international application in the language in which it was filed.



a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐

With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐

Certain claims were found unsearchable (See Box No. II)

3. ☒

Unity of Invention is lacking (See Box No. III)

4. ☒

With regard to the title,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. ☒

With regard to the abstract,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. ☐

With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. _____



as suggested by the applicant.



as selected by this Authority, because the applicant failed to suggest a figure.



as selected by this Authority, because this figure better characterizes the invention.

b. ☒

none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (April 2005)

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of any additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

- Remark on Protest**
- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
 - ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
 - ☐ No protest accompanied the payment of additional search fees.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8): C12Q 1/00(2006.01);G01N 33/48(2006.01)
C12Q 1/00(2006.01);G01N 33/48(2006.01)

USPC: 435/4;702/19

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/4; 702/19

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/0104499 A1 (PRESSMAN et al.) 05 June 2003 (05.06.2003), page 9, paragraph 0083-0085, page 35, paragraph 0366; page 10 paragraph 0092; page 28, paragraph 0265-0266; pages 35-36, paragraph 0376; page 14, paragraph 0127; page 30, paragraph 0313-0315, 0304, 0307; page 11, paragraph 0098; page 36, paragraph 0397; page 32, paragraph 0329; page 28, paragraph 0262; page 10, paragraph 0094.	1-5, 8-11, 13-20, 22-28, 31, 33-36, 79, 80
Y	US 2004/0110221 A1 (TWINE et al.) 10 June 2004 (10.06.2004), page 72, paragraph 0599; page 64; paragraph 0513-0514.	6, 7, 12, 21, 29, 30, 32, 37-78, 81
Y	US 2003/0073083 A1 (TAMAYO et al.) 17 April 2003 (17.04.2003), page 23, paragraph 0186.	6, 7, 21, 29, 30, 51, 52, 62, 69, 12, 57

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"B" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" Inter document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

16 March 2006 (16.03.2006)

Date of mailing of the international search report

Name and mailing address of the ISA/US

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BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group 1, claim(s) 1-36, 79 and 80, drawn to a method of screening molecular markers by selecting a plurality of markers based on the molecular marker's ability to discriminate.

Group 2, claim(s) 37-77 and 81, drawn to a method of identifying classifiers for a trait by selecting for molecular markers in Tables 1-A-71.

The inventions listed as Groups 1 and 2 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Group 1 has the special technical feature of selecting a plurality of candidate molecular markers based on the molecular marker's ability to discriminate between members of different traits. In contrast, Group 2, has the special technical feature of selecting molecular markers from Tables 1A-71. Thus the Groups do not share a special technical feature and do not relate to a single general inventive concept under PCT Rule 13.1.

Continuation of B. FIELDS SEARCHED Item 3:

WEST, Medline, Embase, Biosis

Terms: classifier, molecular, marker, population, differential, wald, wolfovitz, mann, whitney, kolmogorov, smirnov, manduchis, database, combination, array, microarray, PCR, differential, rank, subspace, bagging, boosting